

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/539,169 Confirmation No. 9282  
Applicant: : Frank Brady, *et al.*  
Filed : June 14, 2005  
TC/A.U. : 1618  
Examiner: : Melissa Jean Perreira  
  
Docket No. : PH02108  
Customer No. : 36335

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**AMENDMENT**

Sir:

Applicants hereby Petition for Extension of Time Under 37 CFR 1.136(a) to extend the period for filing a response for three (3) months from August 25, 2010 through November 25, 2010. The Director is hereby authorized to charge the amount of \$1,110.00 to Deposit Account No. 502-665.

The Commissioner is hereby authorized to charge any additional fees under 37 CFR §1.16(j) or 37 CFR 1.136(a) which may be required, or credit any overpayment, to Deposit Account No. 502-665 in the name of GE Healthcare, Inc.

In response to the Office Action of May 25, 2010, please amend the above-identified application as follows:

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks/Arguments** begin on page 6 of this paper.

**Amendments to the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

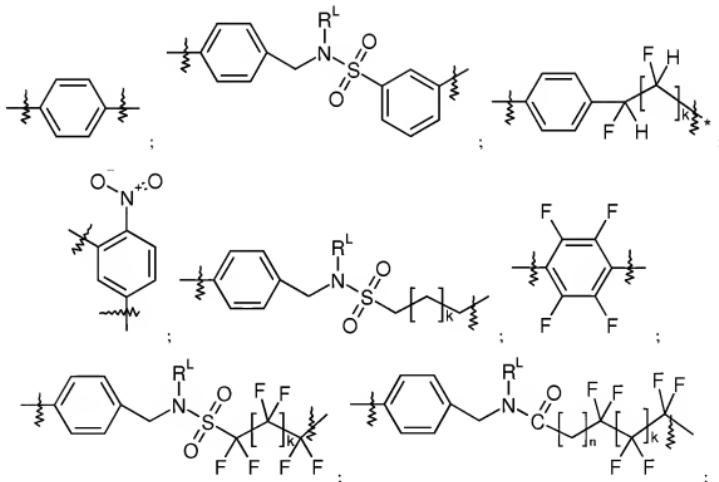
Claims 1 –3 (Cancelled).

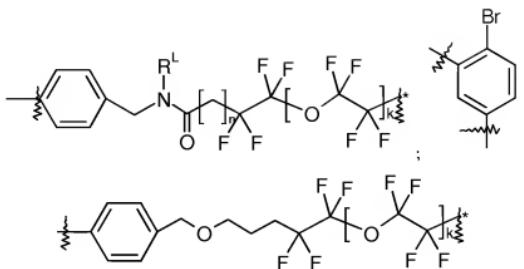
4. (Previously presented) A process for the production of an <sup>18</sup>F-labelled tracer which comprises treatment of a solid support-bound precursor of formula (Ib)

SOLID SUPPORT-LINKER- $I^+$  -TRACER (Ib)

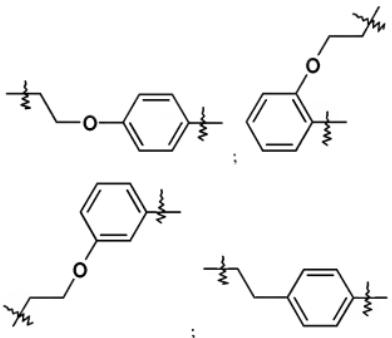
$Y^-$

wherein  $Y^-$  is an anion, the SOLID SUPPORT is a polymer selected from polystyrene which is optionally block grafted, polyacrylamide, and polypropylene or glass or silicon coated with such a polymer, the LINKER is selected from:

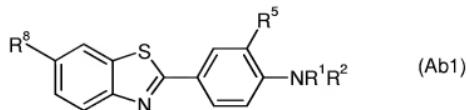




wherein at each occurrence, k is an integer of 0 to 3, n is an integer of 1 to 16, and R<sup>L</sup> is hydrogen or C<sub>1-6</sub>alkyl; and



wherein each phenyl ring is optionally substituted by 1 to 4 groups selected from C<sub>1-6</sub>alkyl and C<sub>1-6</sub>alkoxy; and the TRACER is of formula (Ab1)



wherein:

R<sup>1</sup> and R<sup>2</sup> are independently selected from hydrogen, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> hydroxyalkyl, C<sub>1-6</sub> haloalkyl, and a protecting group selected from alkoxycarbonyl;

R<sup>5</sup> is hydrogen, C<sub>1-6</sub> alkyl, or a bond to the SOLID SUPPORT-LINKER-I<sup>+</sup>- group in formula (Ib);

R<sup>8</sup> is hydroxy, C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkyl, or a bond to the SOLID SUPPORT-LINKER-I<sup>+</sup>- group in formula (Ib);

provided that only one of R<sup>5</sup> and R<sup>8</sup> is a bond to the SOLID SUPPORT-LINKER-I<sup>+</sup>- group in formula (Ib);

with <sup>18</sup>F<sup>-</sup> to produce the labelled tracer of formula (IIb)

<sup>18</sup>F-TRACER (IIb)

wherein the TRACER is as defined for the compound of formula (Ib) except that one of R<sup>5</sup> and R<sup>8</sup> is a bond to the <sup>18</sup>F instead of a bond to the SOLID SUPPORT-LINKER-I<sup>+</sup>- group in formula (Ib);

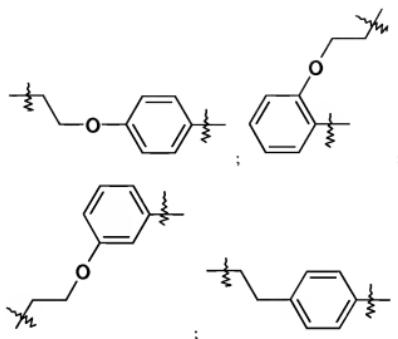
optionally followed by:

- (i) removal of excess <sup>18</sup>F<sup>-</sup>; and/or
- (ii) removal of any protecting groups; and/or
- (iii) removal of organic solvent; and/or
- (iv) formulation of the resultant compound of formula (IIb) as an aqueous solution.

5. (Cancelled).

Claims 6-14 (cancelled).

15. (Previously presented) A process according to claim 4 wherein the LINKER is selected from:



wherein each phenyl ring is optionally substituted by 1 to 4 groups selected from C<sub>1-6</sub>alkyl and C<sub>1-6</sub>alkoxy.

REMARKS

**I. Amendment to the Claims**

No amendments to the claims have been made. Claims 4 and 15 are pending.

**II. Rejection under 35 U.S.C. § 103(a)**

Claims 4 and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Luthra et al (US 2004/0236085) ("Luthra") in view of Stevens et al. (WO01/14354) ("Stevens") and Scheler (US 4,540,648) ("Scheler"). Applicants respectfully disagree and traverse the rejection.

Applicants' claimed invention is directed to a regiospecific solid-phase <sup>18</sup>F-fluorination process of benzothiazole compounds. Specifically, according to Applicants' claimed invention, the TRACER of formula (Ab1) is labeled with <sup>18</sup>F at either the R<sup>5</sup> or R<sup>8</sup> position. As recognized by the Examiner, Luthra fails to teach or suggest the labeling of benzothiazole compounds, much less the regiospecific labeling of benzothiazole compounds. Hence Luthra fails to teach or suggest Applicant's claimed regiospecific benzothiazole 18F-labeling process.

Stevens and Scheler are relied upon for their description of benzothiazole compounds. However Stevens describes that their 18F labeled compounds are prepared from the corresponding iodo substituted compound (Stevens, page 5, lns. 13-17). Stevens is silent as to Applicants' claimed process. Scheler is wholly unconcerned with radiofluorination of benzothiazole compounds. Thus one of skill in the art would not be motivated by either Stevens or Scheler to regiospecifically radiofluorinate a benzothiazole compound according to Applicant's claimed process.

None of the references whether alone or in combination would teach or suggest Applicant's claimed invention. Applicants' claimed invention is not obvious in view of the cited references. Applicants respectfully request this rejection be withdrawn.

Appl. No. 10/539,169  
Amdt. Dated November 17, 2010  
Reply to Office action of May 25, 2010

**III. Conclusion**

In view of the remarks herein, Applicants believe that each ground for rejection or objection made in the instant application has now been successfully overcome or obviated, and that all the pending claims are now in condition for allowance. Withdrawal of the Examiner's rejections and objections, and allowance of the current application are respectfully requested.

The Examiner is invited to telephone the undersigned in order to resolve any issues that might arise and to promote the efficient examination of the current application.

The Director is hereby authorized to charge any fees due in connection with this Amendment against Deposit account number 502-665.

Respectfully submitted,

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